

REMARKS

This is a full and timely response to the non-final Office Action mailed February 5, 2005. Claims 63 – 100 remain pending. Specifically, claims 63 – 64, 67, 73, 82 and 92 have been amended. Applicants respectfully traverse all the rejections and any findings of official notice in the final Office Action. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

I. Claims 64 and 67 Comply With 35 U.S.C. §112, 2nd Paragraph

The Office Action rejects claims 64 and 67 under 35 U.S.C. §112, second paragraph, as allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 64 and 67, the Office Action alleges that claims 64 and 67 are allegedly indefinite “as it is not clear if the applicant’s intention was to claim an alternative limitation (*e.g.* Markush group),” (Office Action, pgs. 2-3) and that “for the purpose of Prior Art rejection the Examiner assumed the cited claim to present a Markush group.” (Office Action, pgs. 2-3).

Applicants have amended claims 64 and 67 to follow the Markush format specified by MPEP 2173.05 (h). Accordingly, Applicants submit that claims 64 and 67, as amended, fully comply with 35 U.S.C. §112, second paragraph, and the rejection to claims 64 and 67 under §112 should be withdrawn.

For at least the reason that the Examiner has apparently already considered, for Prior Art purposes, that the claims were in Markush format, these amendments are not believed to necessitate a new search. Furthermore, these amendments have been made

solely for the purposes of overcoming the §112 rejection and have not been made for the purposes of defining over any of the cited art.

II. General Remarks Related to the §102 and §103 Rejections

As an initial matter, Applicants submit that the claims, before amendment, patently define over U.S. Patent No. 5,616,078 to Oh (“*Oh*”), without amendment. However, in an effort to expedite prosecution, the Applicants have made minor claim amendments to merely clarify these important distinctions. Applicants submit that these amendments do not, in any way, necessitate a new search, as they merely serve to clarify distinctions already present in the pending claims.

In addition, in rejecting claims 63 – 100, the Office Action alleges that “the phrase ‘configured to’ merely indicates the ability of the claimed structure to perform a given function” and “in this case, the apparatus of OH, discloses all the structural limitations of the claimed invention and is therefore considered to meet the ‘configured to’ recitations.” (Office Action, pgs. 5, 9-10, 14-15, and 17.

As an initial matter, *Oh* does not apparently disclose all of the structural limitations of the pending claims, and Applicants have made an effort to more clearly convey the structural differences in the more detailed arguments set forth below. But even more, functional limitations must be considered like any other limitation. However, it appears the Office Action does not give patentable weight to Applicants’ functional recitations contained in Applicants’ claims. Applicants, however, may use functional language and such language must be considered when making a prior art rejection. As provided in the Manual of Examining Procedure (MPEP):

Applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought.

MPEP § 2173.01. The MPEP provides further guidance in the context of 35 U.S.C. § 112, second paragraph:

The essential inquiry pertaining to this [35 U.S.C. § 112] requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

- (A) The content of the particular application disclosure;
- (B) The teachings of the prior art; and
- (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.

MPEP § 2173.01.

The MPEP also provides guidance specific to functional limitations in MPEP

2173.05(g). As provided therein:

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA 1971).

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly

conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability of purpose this is served by the recited element, ingredient or step.

MPEP § 2173.05(g) (*Emphasis added*).

In view of the above, Applicants' recitation of features "configured to" perform particular functions are not indefinite, and must be considered for what they fairly convey.

III. Claims 92 and 100 are Patentable Over *Oh*

The Office Action rejects claims 92 and 100 under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 5,616,078 to *Oh* ("*Oh*"). Applicants submit that claims 92 and 100 are allowable for at least the reason that *Oh* does not teach each and every feature of claims 92 and 100.

Independent Claim 92

Independent Claim 92, as amended, recites:

92. A system comprising:
an image capturing device having a portable housing configured to be worn on a user including:

***a light-emitting device configured to emit infrared light away from the portable housing onto an object of the user;
an image-forming device, located within the portable housing, configured to form one or more images of the object due to the emitted infrared light that is reflected from the object;
and***

a processor, located within the portable housing, configured to monitor a condition of the user by processing data corresponding to the one or more images of the object.

(*Emphasis added*). The Applicants respectfully submit that claim 92 patently defines over *Oh* for at least the reason that *Oh* fails to disclose, teach, or suggest the features emphasized in bold text above.

Oh does not disclose “an image-capturing device having a portable housing configured to be worn on a user including: ***a light-emitting device configured to emit infrared light away from the portable housing onto an object of the user***” as recited in claim 92. Rather, *Oh* discloses that “sets of markers M are adapted to indicate body parts or joints of the player Q such as a head, hands, arms, legs and elbows, and each include a light omitting or reflecting member such as a color pad, a light-reflecting gum pad, a visible radiation LED (light emitting diode) and infrared ray LED.” (*Emphasis added*, col. 4, lines 50-55). Further, *Oh* discloses:

The video cameras 31 and 31' each include an image sensor such as CCDs (charge coupled devices) and pick up object images in accordance with the standard or specially-specified signal system. In the case where the sets of markers M emit light by means of the visible radiation LED, the video cameras 31 and 31' are a color video camera provided with an image sensor device such as CCDs. In the case where the sets of markers M emit light by means of the infrared ray LED, an IR filter which cuts visible rays is provided on the surface of the optical lens of each camera so that the sets of markers M can be detected from the background of the camera image.

Thus, the markers M do not emit light “***onto an object of the user***” as recited in claim 92. Rather, the light is emitted away from an object of the user (upon which the markers are worn) such that the cameras 31 and 31' are able to directly detect the position of the markers. Thus, *Oh* does not disclose “an image-capturing device having a portable housing configured to be worn on a user including: ***a light-emitting device configured to***

emit infrared light away from the portable housing onto an object of the user” as recited in claim 92, and the claim should be allowed for this reason alone.

In addition, *Oh* does not disclose “*an image-forming device, located within the portable housing, configured to form one or more images of the object due to the emitted infrared light that is reflected from the object*” as recited in claim 92. Rather, *Oh* apparently discloses, at most, that “motion capture unit 3 includes a pair of video cameras 31 and 31’” (col. 4, lines 19-20), and that “the video cameras 31 and 31’ are disposed at positions suitable to overlook the player Q obliquely from front and above.” (Col. 4, lines 43-45). Thus, the cameras 31 and 31’ are not “located within the portable housing” as required by claim 92. Accordingly, *Oh* does not disclose “*an image-forming device, located within the portable housing, configured to form one or more images of the object due to the emitted infrared light that is reflected from the object*” as recited in claim 92, and the claim should be allowed for this additional reason alone.

Furthermore, as discussed previously with respect to claim 92, the markers M of *Oh* do not emit light “away from the portable housing onto an object of the user” as recited in claim 92. Accordingly, light is not reflected from an object such that the image forming device can “*form one or more images of the object due to the emitted infrared light that is reflected from the object*” as recited in claim 92. Accordingly, *Oh* does not disclose “an image-forming device, located within the portable housing, *configured to form one or more images of the object due to the emitted infrared light that is reflected from the object*” as recited in claim 92, and the claim should be allowed for this additional reason alone.

Further, *Oh* simply does not disclose “***a processor, located within the portable housing, configured to monitor a condition of the user by processing data corresponding to the one or more images of the object***” as recited in claim 92. The Office Action apparently alleges that the image processor 33 of FIG. 1 provides this claimed feature. However, image processor 33 is not located within the alleged portable housing of *Oh* (e.g. Markers M). Further, there is no reason or motivation with respect to *Oh* for including image processor 33 within the alleged portable housing for at least the reason that there is no intelligence, at all, related to the Markers M with respect to the remainder of the system. Thus, for at least these reasons, *Oh* does not disclose “***a processor, located within the portable housing, configured to monitor a condition of the user by processing data corresponding to the one or more images of the object***” as recited in claim 92, and the claim should be allowed for this additional reason alone.

Furthermore, because independent claim 92 patently defines over *Oh*, dependent claims 93 - 100 are allowable as a matter of law for at least the reason that claims 93 – 100 contain all the features and elements of its corresponding independent claim. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

Dependent Claim 100

Applicants submit that dependent claim 100 is patentable over *Oh*, as a matter of law, for at least the reason that claim 100 depends from claim 92, which Applicants believe to be patentable. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

Furthermore, claim 100 recites additional features not disclosed by *Oh*. Specifically, claim 100 recites that “***the image-capturing device is configured to log data***

that corresponds to the one or more images over a period of time.” The Office Action alleges (Office Action, pg. 4) *Oh* discloses this feature at column 5, lines 11-23, which are reproduced below:

The image processor 33 includes a marker extracting unit 331, 2 coordinate calculator 332, and a hardware calculation unit 333 for three-dimensional coordinate transformation. The marker extracting unit 331 extracts images of the sets of markers M from the image picked up by the video cameras 31 and 31' in a fixed sampling rate, e.g. 60 Hz or higher. The calculator 332 calculates the coordinates of the center of weight of the markers M from the extracted data of image at every time of sample. The unit 333 converts the two-dimensional coordinates of the sets of markers M into three-dimensional coordinates. The image processor 33 outputs to the game processor the coordinates of the respective sets of markers M at the time rate of the same as the video signal as motion information of the player Q.

(Col. 5, lines 11 – 23). However, Applicants submit that a calculator merely calculate and/or output coordinates is not equivalent to a device configured to “*log data that corresponds to the one or more images over a period of time*” as recited in claim 100.

Accordingly, for at least these reasons, *Oh* does not disclose that “*the image-capturing device is configured to log data that corresponds to the one or more images over a period of time*” as recited in claim 100, and the claim should be allowed for this additional reason alone.

IV. Claims 63 – 72 are Patentable Over *Oh*

Although Applicants submit that previously submitted claims 63 – 72 were patentable over *Oh*, Applicants submit that the amendments to claims 63 – 97 clarify several important features which may not have been given full consideration with respect to the presentation of previous claims 63 – 72.

Independent Claim 63 (and Dependent Claims 64 – 72)

Claim 63, as amended, recites:

63. A system comprising:
an image capturing device having a portable housing configured to be worn on a user including:
a light-emitting device configured to emit light away from the portable housing onto an object of the user;
an image-forming device, located within the portable housing, configured to form one or more images of the object due to the emitted light that is reflected from the object; and
a processor, located within the portable housing, configured to:
analyze motion of the object based on the one or more images; and
generate at least one command to control an electrical device; and
a communication device configured to wirelessly communicate the at least one command from the image capturing device to the electrical device.

(*Emphasis added*). Applicants respectfully submit that claim 63 patently defines over any combination of *Oh* and the knowledge of one skilled in the art, for at least the reason that the proposed combination of *Oh* and the knowledge of one skilled in the art, fails to disclose, teach or suggest the features emphasized in bold text above. MPEP §2143.03.

Oh does not disclose “an image-capturing device having a portable housing configured to be worn on a user including: ***a light-emitting device configured to emit light away from the portable housing onto an object of the user***” as recited in claim 63.

Rather, *Oh* discloses that “sets of markers M are adapted to indicate body parts or joints of the player Q such as a head, hands, arms, legs and elbows, and each include a light omitting or reflecting member such as a color pad, a light-reflecting gum pad, a visible radiation LED (light emitting diode) and infrared ray LED.” (*Emphasis added*, col. 4, lines 50-55). Further, *Oh* discloses:

The video cameras 31 and 31' each include an image sensor such as CCDs (charge coupled devices) and pick up object images in accordance with the standard or specially-specified signal system. In the case where the sets of markers M emit light by means of the visible radiation LED, the video cameras 31 and 31' are a color video camera provided with an image sensor device such as CCDs. In the case where the sets of markers M emit light by means of the infrared ray LED, an IR filter which cuts visible rays is provided on the surface of the optical lens of each camera so that the sets of markers M can be detected from the background of the camera image.

Thus, the markers M do not emit light “*onto an object of the user*” as recited in claim 63. Rather, the light is emitted away from an object of the user (upon which the markers are worn) such that the cameras 31 and 31' are able to directly detect the position of the markers.

Furthermore, one skilled in the art at the time of the invention would not be motivated to alter the *Oh* system to include the feature of “*a light-emitting device configured to emit light away from the portable housing onto an object of the user.*” *Oh* operates on an entirely different principle than the system of claim 63, with *Oh* using the direct reception of light from the markers M, which are themselves are apparently attached to objects of the user. In contrast, because the image forming device of claim 63 is “within the portable housing,” the image forming device receives light reflected back from the object.

Furthermore, the system of *Oh* is not portable at all. Rather the *Oh* system apparently operates only so long as the user is within the area of reference sheet 32, “which defines reference coordinate systems for specifying the positions of the sets of markers M.” (Col. 4, lines 23-25).

In addition, *Oh* does not provide any motivation for adding the claimed features. Rather, the *Oh* system is used specifically for “a motion controlled video entertainment system” (col. 3, lines 65-66), which would not apparently benefit from portability.

Thus, *Oh* does not disclose, teach, or suggest “an image-capturing device having a portable housing configured to be worn on a user including: ***a light-emitting device configured to emit light away from the portable housing onto an object of the user***” as recited in claim 63, and the claim should be allowed for this reason alone.

In addition, *Oh* does not disclose, teach, or suggest “***an image-forming device, located within the portable housing, configured to form one or more images of the object due to the emitted light that is reflected from the object***” as recited in claim 63. Rather, *Oh* apparently discloses, at most, that “motion capture unit 3 includes a pair of video cameras 31 and 31’” (col. 4, lines 19-20), and that “the video cameras 31 and 31’ are disposed at positions suitable to overlook the player Q obliquely from front and above.” (Col. 4, lines 43-45). Thus, the cameras 31 and 31’ are not “located within the portable housing” as required by claim 92. Accordingly, *Oh* does not disclose “***an image-forming device, located within the portable housing, configured to form one or more images of the object due to the emitted infrared light that is reflected from the object***” as recited in claim 63, and the claim should be allowed for this additional reason alone.

Furthermore, as discussed previously with respect to claim 63, the markers M of *Oh* do not emit light “away from the portable housing onto an object of the user” as recited in claim 63. Accordingly, light is not reflected from an object such that the image forming device can “***form one or more images of the object due to the emitted infrared light that is reflected from the object***” as recited in claim 63. Accordingly, *Oh* does not disclose, teach,

or suggest “an image-forming device, located within the portable housing, ***configured to form one or more images of the object due to the emitted infrared light that is reflected from the object***” as recited in claim 63, and the claim should be allowed for this additional reason alone.

Further, *Oh* simply does not disclose, teach, or suggest “***a processor, located within the portable housing,***” as recited in claim 63. The Office Action apparently alleges that the image processor 33 of FIG. 1 provides this claimed feature. However, image processor 33 is not located within the alleged portable housing of *Oh* (e.g. Markers M). Further, there is no reason or motivation with respect to *Oh* for including image processor 33 within the alleged portable housing for at least the reason that there is no intelligence, at all, related to the Markers M with respect to the remainder of the system. Thus, for at least these reasons, *Oh* does not disclose “***a processor, located within the portable housing,***” as recited in claim 63, and the claim should be allowed for this additional reason alone.

In addition, claim 63 is patentable over *Oh* for at least the reason that *Oh* does not disclose, teach, or suggest “***a communication device configured to wirelessly communicate the at least one command from the image capturing device to the electrical device***” as recited in claim 63. The Office Action, does not allege that *Oh* discloses this feature, but rather “takes Official Notice that the use of wireless communication devices is old and well known in the art” and that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a wireless link between the processor and the controlled electrical device (as recited in claim 63) of the system of OH.” (Office Action, pg. 9). The Office Action alleges “one would have been motivated to be able to

locate the controlled electrical device independently and remotely of the device of OH.”

(Office Action, pg. 9).

Applicants traverse the Office Action’s taking of Office Notice, and respectfully requests that any ensuing Office Action set forth the specific references regarded as teaching the element of “***a communication device configured to wirelessly communicate the at least one command from the image capturing device to the electrical device.***”

Additionally, Applicants disagree with the supplied motivation (e.g. “*to be able to locate the controlled electrical device independently and remotely of the device of OH*”). The system of *Oh* is not portable, and would not benefit from being portable, at all. Rather the *Oh* system apparently operates only so long as the user is within the area of reference sheet 32, “which defines reference coordinate systems for specifying the positions of the sets of markers M.” (Col. 4, lines 23-25).

Accordingly, claim 63 is patentable over *Oh* (and the knowledge of one skilled in the art) for at least the reason that *Oh* does not disclose, teach, or suggest “***a communication device configured to wirelessly communicate the at least one command from the image capturing device to the electrical device***” as recited in claim 63.

Furthermore, because independent claim 63 patently defines over *Oh*, dependent claims 64 – 72 are allowable as a matter of law for at least the reason that claims 64 – 72 contain all the features and elements of its corresponding independent claim. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

Dependent Claims 66 and 67

Applicants agree with the Office Action assertion that *Oh* does not disclose “the processor processes data that corresponds to the one or more images to monitor a health related condition of the user” (claim 66), or “wherein the health related condition of the user is Parkinson's syndrome, insomnia, eating habits, alcoholism, over-medication, or hypothermia” (claim 67).

However, the Office Action apparently alleges that “it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the apparatus of OH and GARRISS to monitor health conditions such as tremors, Parkinson's syndrome, insomnia, eating habits, alcoholism, over-medication, hypothermia, and drinking habits.” (Office Action, pg. 9).

However, as in the Office Action mailed September 24, 2004, the present Office Action does not provide any basis, motivation, or suggestion for this allegation. In fact, *Oh* is not related in any manner to monitoring health related conditions. Accordingly, Applicants respectfully submit that the allegation is a classic example of impermissible hindsight reasoning based solely on Applicants' disclosure. In addition, Applicants believe the reference to “GARRISS” is apparently inadvertent as this reference is not apparently applied in the present §103 rejection of claims 66 and 67.

Independent Claim 73 (and Dependent Claims 74 – 81)

Newly added Claim 73 recites:

73. A method comprising the steps of:
*emitting light away from a portable image-capturing device
configured to be worn by a user, onto an object of the user;*

capturing one or more images of the object due to the emitted light that is reflected back to the portable image-capturing device from the object;
processing data, with a processor located within the portable image-capturing device, corresponding to the one or more images of the object to analyze motion of the object;
generating at least one command to control an electrical device based on the motion of the object; and
wirelessly communicating the at least one command from the portable image-capturing device to the electrical device.

(*Emphasis added*). Applicants respectfully submit that claim 73 patently defines *Oh* for at least the reason that the proposed combination of *Oh* and the knowledge of one skilled in the art, fails to disclose, teach or suggest the features emphasized in bold text above. MPEP §2143.03.

As to claims 73 – 81, the Office Action alleges that “such limitations were considered as inherently disclosed by the structural limitations of the device of OH.” (Office Action, pg. 3). Applicants submit that the Office Action does not meet its burden of setting forth with the required particularity as to the corresponding elements of each of claims 73-81. Furthermore, Applicants traverse the allegation that any such elements are “inherent” from the structure of *Oh*. In the future, Applicants request that the Office Action set forth with the required particularity as to which claimed features correspond with features in the cited reference(s).

Accordingly, a number of limitations not disclosed, taught, or suggested by *Oh* are highlighted for further consideration. For example, *Oh* does not disclose the step of “***emitting light away from a portable image-capturing device configured to be worn by a user, onto an object of the user***” as recited in claim 73. Rather, *Oh* discloses that “sets of markers M are adapted to indicate body parts or joints of the player Q such as a head, hands,

arms, legs and elbows, and each include a light omitting or reflecting member such as a color pad, a light-reflecting gum pad, a visible radiation LED (light emitting diode) and infrared ray LED.” (*Emphasis added*, col. 4, lines 50-55). Further, *Oh* discloses:

The video cameras 31 and 31' each include an image sensor such as CCDs (charge coupled devices) and pick up object images in accordance with the standard or specially-specified signal system. In the case where the sets of markers M emit light by means of the visible radiation LED, the video cameras 31 and 31' are a color video camera provided with an image sensor device such as CCDs. In the case where the sets of markers M emit light by means of the infrared ray LED, an IR filter which cuts visible rays is provided on the surface of the optical lens of each camera so that the sets of markers M can be detected from the background of the camera image.

Thus, the markers M do not emit light *“away from a portable image-capturing device configured to be worn by a user, onto an object of the user”* as recited in claim 73.

Rather, the light is emitted away from an object of the user (upon which the markers are worn) such that the cameras 31 and 31' are able to directly detect the position of the markers.

Furthermore, one skilled in the art at the time of the invention would not be motivated to alter the *Oh* system to include the feature of *“a light-emitting device configured to emit light away from the portable housing onto an object of the user.”* *Oh* operates on an entirely different principle than the system of claim 63, with *Oh* using the direct reception of light from the markers M, which are themselves are apparently attached to objects of the user. In contrast, the method of claim 73 captures images “due to the emitted light reflected back to the image-capturing device from the object.”

Furthermore, the system of *Oh* is not portable at all. Rather the *Oh* system apparently operates only so long as the user is within the area of reference sheet 32, “which

defines reference coordinate systems for specifying the positions of the sets of markers M.” (Col. 4, lines 23-25).

In addition, *Oh* does not provide any motivation for adding the claimed features. Rather, the *Oh* system is used specifically for “a motion controlled video entertainment system” (col. 3, lines 65-66), which would not apparently benefit from portability.

Thus, *Oh* does not disclose, teach, or suggest the step of “*emitting light away from a portable image-capturing device configured to be worn by a user, onto an object of the user*” as recited in claim 73, and the claim should be allowed for this reason alone.

In addition, *Oh* does not disclose, teach, or suggest the step of “*capturing one or more images of the object due to the emitted light that is reflected back to the portable image-capturing device from the object*” as recited in claim 73. Rather, *Oh* apparently discloses, at most, that “motion capture unit 3 includes a pair of video cameras 31 and 31’” (col. 4, lines 19-20), and that “the video cameras 31 and 31’ are disposed at positions suitable to overlook the player Q obliquely from front and above.” (Col. 4, lines 43-45). Thus, the cameras 31 and 31’ are not “located within the portable housing” as required by claim 92. Accordingly, *Oh* does not disclose the step of “*capturing one or more images of the object due to the emitted light that is reflected back to the portable image-capturing device from the object*” as recited in claim 73, and the claim should be allowed for this additional reason alone.

Furthermore, as discussed previously with respect to claim 73, the markers M of *Oh* do not emit light “away from a portable image-capturing device configured to be worn on a user, onto an object of the user.” Accordingly, one or more images of the object cannot be captured “due to the emitted light that is reflected back to the image-capturing device from

the object” as recited in claim 73. Accordingly, Oh does not disclose, teach or suggest capturing one or more images of the object **“due to the emitted light that is reflected back to the portable image-capturing device from the object”** as recited in claim 73, and the claims should be allowed for this additional reason alone.

Further, Oh simply does not disclose, teach, or suggest **“processing data, with a processor located within the portable image-capturing device,”** as recited in claim 73. The Office Action apparently alleges that the image processor 33 of FIG. 1 provides this claimed feature. However, image processor 33 is not located within the alleged portable housing of Oh (e.g. Markers M). Further, there is no reason or motivation with respect to Oh for including image processor 33 within the alleged portable housing for at least the reason that there is no intelligence, at all, related to the Markers M with respect to the remainder of the system. Thus, for at least these reasons, Oh does not disclose **“processing data, with a processor located within the portable image-capturing device,”** as recited in claim 73, and the claim should be allowed for this additional reason alone.

In addition, claim 73 is patentable over Oh for at least the reason that Oh does not disclose, teach, or suggest **“wirelessly communicating the at least one command from the portable image-capturing device to the electrical device”** as recited in claim 73. Not only does Oh simply not disclose this feature, the system of Oh is not portable, and would not benefit from being portable, at all. Rather the Oh system apparently operates only so long as the user is within the area of reference sheet 32, “which defines reference coordinate systems for specifying the positions of the sets of markers M.” (Col. 4, lines 23-25).

Accordingly, claim 73 is patentable over *Oh* for at least the reason that *Oh* does not disclose, teach, or suggest “*wirelessly communicating the at least one command from the portable image-capturing device to the electrical device*” as recited in claim 73.

Furthermore, because independent claim 73 patentably defines over *Oh*, dependent claims 74 – 81 are allowable as a matter of law for at least the reason that claims 74 – 81 contain all the features and elements of its corresponding independent claim. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

Dependent Claims 75 - 77

Applicants submit that dependent claims 75 – 77 are patentable over *Oh* and the knowledge of one skilled in the art, as a matter of law, for at least the reason that dependent claims 75 – 77 depend from independent claim 73, which Applicants believe to be patentable. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

Applicants agree with the apparent Office Action assertion that *Oh* does not disclose “monitoring a health related condition of a user by processing data corresponding to the one or more images” (claim 75); or “wherein the step of monitoring the health related condition further includes: detecting tremors of the user” (claim 76); or “wherein the step of monitoring the health related condition further includes: monitoring any one of Parkinson's syndrome, insomnia, eating habits, alcoholism, over-medication, and hypothermia” (claim 76).

However, the Office Action apparently alleges that “it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the apparatus of OH and GARRISS to monitor health conditions such as tremors, Parkinson's

syndrome, insomnia, eating habits, alcoholism, over-medication, hypothermia, and drinking habits.” (Office Action, pg. 9).

However, as in the Office Action mailed September 24, 2004, the present Office Action does not provide any basis, motivation, or suggestion for this allegation. In fact, *Oh* is not related in any manner to monitoring health related conditions. Accordingly, Applicants respectfully submit that the allegation is a classic example of impermissible hindsight reasoning based solely on Applicants’ disclosure. In addition, Applicants believe the reference to “GARRISS” is apparently inadvertent as this reference is not apparently applied in the present §103 rejection of claims 75 – 77.

Independent Claim 82 (and Dependent Claims 82 – 91)

Newly added Claim 82 recites:

82. A system comprising:
means for capturing an image having a portable housing configured to be worn on a user including:
means for emitting light away from the portable housing onto an object of the user;
means for forming one or more images of the object due to the emitted light that is reflected from the object to the portable housing; and
means for processing, located within the portable housing, configured to:
analyze motion of the object based on the one or more images; and
generate at least one command to control an electrical device; and
means for wirelessly communicating the at least one command from the means for capturing an image to the electrical device.

(*Emphasis added*). Applicants respectfully submit that claim 82 patently defines *Oh* for at least the reason that the proposed combination of *Oh* and the knowledge of one skilled in

the art, fails to disclose, teach or suggest the features emphasized in bold text above. MPEP §2143.03.

Oh does not disclose “an image-capturing device having a portable housing configured to be worn on a user including: ***means for emitting light away from the portable housing onto an object of the user***” as recited in claim 82. Rather, *Oh* discloses that “sets of markers M are adapted to indicate body parts or joints of the player Q such as a head, hands, arms, legs and elbows, and each include a light omitting or reflecting member such as a color pad, a light-reflecting gum pad, a visible radiation LED (light emitting diode) and infrared ray LED.” (*Emphasis added*, col. 4, lines 50-55). Further, *Oh* discloses:

The video cameras 31 and 31' each include an image sensor such as CCDs (charge coupled devices) and pick up object images in accordance with the standard or specially-specified signal system. In the case where the sets of markers M emit light by means of the visible radiation LED, the video cameras 31 and 31' are a color video camera provided with an image sensor device such as CCDs. In the case where the sets of markers M emit light by means of the infrared ray LED, an IR filter which cuts visible rays is provided on the surface of the optical lens of each camera so that the sets of markers M can be detected from the background of the camera image.

Thus, the markers M do not emit light “***away from the portable housing onto an object of the user***” as recited in claim 83. Rather, the light is emitted away from an object of the user (upon which the markers are worn) such that the cameras 31 and 31' are able to directly detect the position of the markers.

Furthermore, one skilled in the art at the time of the invention would not be motivated to alter the *Oh* system to include the feature of “means for emitting ***light away from the portable housing onto an object of the user***.” *Oh* operates on an entirely

different principle than the system of claim 82, with *Oh* using the direct reception of light from the markers M, which are themselves apparently attached to objects of the user. In contrast, the means for forming one or more images of claim 82 does so “due to the emitted light that is reflected from the object to the portable housing.”

Furthermore, the system of *Oh* is not portable at all. Rather the *Oh* system apparently operates only so long as the user is within the area of reference sheet 32, “which defines reference coordinate systems for specifying the positions of the sets of markers M.” (Col. 4, lines 23-25).

In addition, *Oh* does not provide any motivation for adding the claimed features. Rather, the *Oh* system is used specifically for “a motion controlled video entertainment system” (Col. 3, lines 65-66), which would not apparently benefit from portability.

Thus, *Oh* does not disclose, teach, or suggest “an image-capturing device having a portable housing configured to be worn on a user including: *means for emitting light away from the portable housing onto an object of the user*” as recited in claim 82, and the claim should be allowed for this reason alone.

In addition, *Oh* does not disclose, teach, or suggest “*means for forming one or more images of the object due to the emitted light that is reflected from the object to the portable housing*” as recited in claim 82. Rather, as discussed previously with respect to claim 82, the markers M of *Oh* do not emit light “*away from the portable housing onto an object of the user*” as recited in claim 82. Accordingly, light is not reflected from an object such that the image forming device can form “*one or more images of the object due to the emitted infrared light that is reflected from the object to the portable housing*” as recited in claim 82. Accordingly, *Oh* does not disclose, teach, or suggest “*means for forming one*

or more images of the object due to the emitted light that is reflected from the object to the portable housing” as recited in claim 82, and the claim should be allowed for this additional reason alone.

Further, *Oh* simply does not disclose, teach, or suggest “*means for processing, located within the portable housing,*” as recited in claim 82. The Office Action apparently alleges that the image processor 33 of FIG. 1 provides this claimed feature. However, image processor 33 is not located within the alleged portable housing of *Oh* (e.g. Markers M). Further, there is no reason or motivation with respect to *Oh* for including image processor 33 within the alleged portable housing for at least the reason that there is no intelligence, at all, related to the Markers M with respect to the remainder of the system. Thus, for at least these reasons, *Oh* does not *means for processing, located within the portable housing,*” as recited in claim 82, and the claim should be allowed for this additional reason alone.

In addition, claim 82 is patentable over *Oh* for at least the reason that *Oh* does not disclose, teach, or suggest “*a communication device configured to wirelessly communicate the at least one command from the image capturing device to the electrical device*” as recited in claim 82. The Office Action, does not allege that *Oh* discloses this feature, but rather “takes Official Notice that the use of wireless communication devices is old and well known in the art” and that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a wireless link between the processor and the controlled electrical device (as recited in claim 82) of the system of OH.” (Office Action, pgs. 13-14). The Office Action alleges “one would have been motivated to be able

to locate the controlled electrical device independently and remotely of the device of OH.”

(Office Action, pg. 14).

Applicants traverse the Office Action’s taking of Office Notice, and respectfully requests that any ensuing Office Action set forth the specific references regarded as teaching the element of “***means for wirelessly communicating the at least one command from the means for capturing an image to the electrical device.***”

Additionally, Applicants disagree with the supplied motivation (e.g. “*to be able to locate the controlled electrical device independently and remotely of the device of OH*”).

The system of *Oh* is not portable, and would not benefit from being portable, at all. Rather the *Oh* system apparently operates only so long as the user is within the area of reference sheet 32, “which defines reference coordinate systems for specifying the positions of the sets of markers M.” (Col. 4, lines 23-25).

Accordingly, claim 82 is patentable over *Oh* for at least the reason that *Oh* does not disclose, teach, or suggest “***means for wirelessly communicating the at least one command from the means for capturing an image to the electrical device***” as recited in claim 82.

Furthermore, because independent claim 82 patently defines over *Oh*, dependent claims 83 – 91 are allowable as a matter of law for at least the reason that claims 83 – 91 contain all the features and elements of its corresponding independent claim. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

Dependent Claims 84 – 86

Applicants submit that dependent claims 84 – 86 are patentable over *Oh* and the knowledge of one skilled in the art, as a matter of law, for at least the reason that dependent claims 84 – 86 depend from independent claim 82, which Applicants believe to be patentable. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

Applicants agree with the apparent Office Action assertion that *Oh* does not disclose a “means for processing is further configured to process data that corresponds to the one or more images to monitor a health related condition of a user” (claim 84); or “wherein the means for processing is further configured to detect tremors of the user.” (claim 85); or “wherein the health related condition of the user is any one of Parkinson's syndrome, insomnia, eating habits, alcoholism, over-medication, and hypothermia” (claim 86).

However, the Office Action apparently alleges that “it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the apparatus of OH and GARRISS to monitor health conditions such as tremors, Parkinson's syndrome, insomnia, eating habits, alcoholism, over-medication, hypothermia, and drinking habits.” (Office Action, pg. 14).

However, as in the Office Action mailed September 24, 2004, the present Office Action does not provide any basis, motivation, or suggestion for this allegation. In fact, *Oh* is not related in any manner to monitoring health related conditions. Accordingly, Applicants respectfully submit that the allegation is a classic example of impermissible hindsight reasoning based solely on Applicants' disclosure. In addition, Applicants believe

the reference to “GARRISS” is apparently inadvertent as this reference is not apparently applied in the present §103 rejection of claims 84 – 86.

Dependent Claims 93, 96 and 98 - 99

Applicants submit that dependent claims 93, 96 and 98 - 99 are patentable over *Oh* and the knowledge of one skilled in the art, as a matter of law, for at least the reason that dependent claims 93, 96 and 98 - 99 depend from independent claim 92, which Applicants believe to be patentable. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

Applicants agree with the apparent Office Action assertion that *Oh* does not disclose that the “processor is further configured to detect tremors of the user to monitor the condition of the user” (claim 93); or “the image capturing device is further configured to provide automatic control of an electrical device based on the frequency of the tremors” (claim 96); or “the condition of the user is a health related condition” (claims 98 and 99).

However, the Office Action alleges that “it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to detect tremors (as recited in claim 94), provide automatic control based on the frequency of the tremors (as recited in claim 96), the tremors being pathological tremors (as recited in Claim 97), or the condition being a health related condition of a user (as recited in claims 98 and 99) ***to be able to provide an indication of a health condition to medical personnel.***” (Office Action, pg. 17).

As an initial matter, Applicants submit that configuring a processor such that the processor is “configured to detect tremors of the user to monitor the condition of the user,”

would not be obvious, and has not been disclosed by *Oh*, which is directed to a motion controlled entertainment system.

Furthermore, the present Office Action motivation (“to be able to provide an indication of a health condition to medical personnel”) does not provide the proper basis, motivation, or suggestion for this allegation. As an initial matter, *Oh* is not related in any manner to monitoring health related conditions. A further indication of the non-obviousness is the complete lack of a reference disclosing the supposed “obvious” features. Accordingly, Applicants respectfully submit that the allegation is a classic example of impermissible hindsight reasoning based solely on Applicants’ disclosure.

Dependent Claims 94 and 95

Applicants submit that dependent claims 94 – 95 are patentable over *Oh* and the knowledge of one skilled in the art, as a matter of law, for at least the reason that dependent claims 94 – 95 depend from independent claim 92, which Applicants believe to be patentable. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

Applicants agree with the apparent Office Action assertion that *Oh* does not disclose that the “the processor is configured to perform a fast Fourier transform on the data to determine the frequency of the tremors” (claim 93), or that “the processor is configured to ignore motion of the object below 2 Hz in a frequency domain” (claim 94).

The Office Action does not allege that the claimed features of claims 93 and 94 are obvious, inherent, or disclosed at all. Rather, the Office Action alleges “that the phrase ‘configured to’ merely indicates the ability of the claimed structure to perform a given function” and “in this case, the apparatus of OH discloses all the structural

limitations of the claimed invention and is therefore considered to meet the ‘configured to’ recitations.”

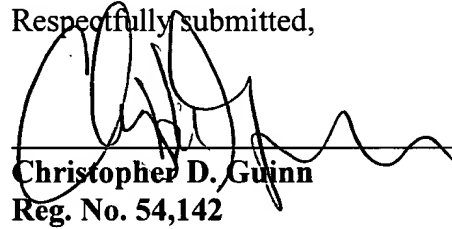
As an initial matter, *Oh* does not apparently disclose all of the structural limitations of independent claim 93, from which claims 93 and 94 depend. But even more, functional limitations must be considered like any other limitation. Accordingly, in that *Oh* does not disclose, teach, or suggest that “the processor is configured to perform a fast Fourier transform on the data to determine the frequency of the tremors,” as recited in claim 93, or that “the processor is configured to ignore motion of the object below 2 Hz in a frequency domain” as recited in claim 94, dependent claims 93 and 94 are allowable for at least these additional reasons.

CONCLUSION

The Applicants respectfully submit that all claims are now in condition for allowance, and request that the Examiner pass this case to issuance. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this response. If, however, any fee is deemed to be payable, you are hereby authorized to charge any such fee to Deposit Account No. 20-0778.

Respectfully submitted,



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